

A young man with dark, curly hair and a beard is smiling while wearing large white headphones. He is wearing a white t-shirt under a blue and red plaid shirt. He is holding a tablet computer in his hands and looking at the screen. The background is a blurred interior of a bus or train, with yellow handrails visible. In the top left corner, there is a blue square containing the Ballard logo and the FCmove logo.

BALLARD™

FCmove™

We deliver fuel cell power
for sustainable transit

The future of public transit is electric

There is no doubt that the future of public transportation is zero-emission and it is happening now. Many regions around the world are setting goals and mandates to convert entire fleets to electric buses.

Fuel cell electric buses fueled with hydrogen are the only zero-emission technology to offer one-to-one replacement of diesel fleets with complete route flexibility, short refueling time and similar depot space utilization.

Hydrogen fuel cells are the most viable solution to reduce emissions and create a cleaner future – without compromise.



No compromise zero-emission transit



Proven Range

Fuel cell electric buses have a range of 550 kilometers and offer the same route flexibility as diesel buses in day-to-day operation. Fuel cells deliver consistent power during the duty cycle, in hot and cold conditions.



Fast Refueling

Fuel cell electric buses can be refueled in minutes, reducing the impact of refueling on busy bus schedules. 8-12 minutes of refueling delivers 18 hours of continuous service without the need for overnight charging.



Reliability

Ballard fuel cells powering transit buses have achieved durability records with more than 25,000 hours of revenue service. This is equivalent to operating a bus on a 14-hour daily schedule, five days per week for more than eight years with no significant maintenance to the fuel cell stack, a core engine component.



Infrastructure Scalability

Hydrogen stations offer scalability to easily upgrade the station when the bus fleet expands over time. They also use much less real estate than individual charging stations.



HYDROGEN STORAGE

**HIGH VOLTAGE
BATTERY**

**AIR CONDITIONING WITH HIGH
VOLTAGE BATTERY COOLER**

FUEL CELL UNIT

Industry-leading fuel cells for transit

Ballard's motive modules for heavy-duty vehicles lead the fuel cell industry in performance, durability, lifecycle cost and overall road experience.

FCmove™, the latest platform for heavy-duty power modules based on the FCgen®-LCS stack, is the culmination of more than eight generations of product development at Ballard. The FCmove™ platform offers a compact, fully integrated, robust fuel cell power solution with impressive reduction in total lifecycle cost. Available at 70kW and 100kW, FCmove™ products are specifically designed to meet the requirements of commercial vehicle operators.

MAIN COOLING

Fuel cell technology

A fuel cell electric bus is an electric vehicle that includes both a fuel cell and batteries working seamlessly together to provide efficient zero-emission power without compromised range or service requirements.

In this hybrid architecture, the fuel cell works in both parallel and series modes to keep the batteries charged, provide peak traction power, and the energy necessary for the bus auxiliary loads.

There is no need to plug in the bus to recharge the batteries as hydrogen stored on-board provides the entire daily energy needs of the bus.

FCmove™-HD



FCmove™-MD



FCmove™-HD+



Scalable, sustainable hydrogen fueling

Hydrogen fueling stations are fully scalable. The cost per vehicle decreases as the fleet and hydrogen consumption grow, becoming less expensive than electric charging infrastructure.

In many cases, agencies can install hydrogen refueling infrastructure with a similar footprint to CNG refueling. Different flexible and scalable options, from gas or liquid delivery, to on-site production are available to meet specific site and operator requirements. Today, several companies provide turnkey hydrogen infrastructure solutions for centralized refueling at the depot.

When fueled with green hydrogen produced from renewable energy, fuel cell electric buses are the cleanest option from both a lifetime emissions and environmental impact perspective.





Ballard's experience

With more than 150 million kilometers completed in passenger service, fuel cell electric buses have proven their performance, demonstrating reliable operation and long daily drive cycles during all seasons and in challenging geographies.

Today, there are more than 1,400 fuel cell electric buses powered by Ballard and deployed globally.

Bus manufacturers offer fuel cell buses to transit agencies as a standard electric propulsion option. Ballard heavy-duty motive modules are powering electric buses from 8 to 18 meters (35 to 60 feet), including double-decker buses.



*compiled from 2015

Service and support

Ballard's integration team works closely with our partners right from the beginning of their fuel cell programs and all the way through the vehicle commissioning. Once the vehicle is on the road, Ballard's Customer Care team takes over to provide comprehensive service, including training, on-site support, diagnostics and spare parts management. Extended warranties are available for preventative and corrective maintenance.

Proven solutions for transit

Fuel cell technology is a proven solution that is ready to be deployed for public transit around the world.

Fuel cell manufacturers, bus manufacturers, hydrogen suppliers and government agencies are all working together in programs to affordably deploy fuel cell electric buses.

Customer Care

We provide aftersales maintenance contact in each country where the buses are deployed with a dedicated local Customer Care team.

To find out more, contact Ballard today



We deliver fuel cell power
for a sustainable planet

When it comes to product lifecycle management, Ballard is at the leading edge of innovation in applying the three “Rs” to its fuel cell stacks. Our expertise in refurbishing, reusing, and reclaiming fuel cell components means our solution is both zero-emission and zero-waste.



PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING



Here for life™

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